

# **SLIDING KEYBOARD CARRIER**

## **BACKGROUND OF THE INVENTION**

### **1. Field of the Invention:**

The present invention relates to a computer table and, more  
5 specifically, to a sliding keyboard carrier for use in a computer  
table.

### **2. Description of the Related Art:**

A computer table is equipped with a sliding keyboard  
carrier for carrying a computer keyboard. The sliding keyboard  
10 carrier comprises a plurality of rollers symmetrically provided at  
two opposite lateral sides and respectively supported in two  
parallel rails. The user can move the sliding keyboard carrier in and  
out of the computer table between the extended position and the  
received position. However, conventional computer table of this  
15 design has no means to lock the sliding keyboard carrier in the  
extended position. When operating the keyboard, the user may push  
the sliding keyboard carrier backwards to the inside of the  
computer table accidentally.

## **SUMMARY OF THE INVENTION**

20 The present invention has been accomplished under the  
circumstances in view. It is the main object of the present invention  
to provide a sliding keyboard carrier for use in a computer table to  
carry a keyboard, which is equipped with a locking device for

locking in the extended position. It is another object of the present invention to provide a sliding keyboard carrier for use in a computer table to carry a keyboard, which can easily be operated to unlock the locking device.

5           To achieve these and other objects of the present invention, the sliding keyboard carrier is mounted in a computer table below a table top frame member and movable along two parallel rails in the computer table below the table top frame member, comprising: a base frame movable along the rails, the base frame having mounted  
10 with a keyboard panel for holding a computer keyboard; a positioning structure mounted on the base frame and adapted to lock the base frame, the positioning structure comprising a vertically movable locking bar for engaging in locking holes provided at the rails to lock the base frame after the base frame has  
15 been moved along the rails to a predetermined position; and a handle frame fastened pivotally with the base frame for operation by the user to release the locating bar from the locking holes.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is an exploded view of a sliding keyboard carrier  
20 according to the present invention.

FIG. 2 is an assembly view of the sliding keyboard carrier according to the present invention.

FIG. 3 is an installed view of the present invention showing

the installation of the sliding keyboard carrier in the rails of the table top frame member (I).

FIG. 4 is an installed view of the present invention showing the installation of the sliding keyboard carrier in the rails of the  
5 table top frame member (II)

FIG. 5 is an installed view of the present invention showing the installation of the sliding keyboard carrier in the rails of the table top frame member (III)

FIG. 6A is a schematic sectional view of the present  
10 invention, showing movement of the sliding keyboard along the rails (I).

FIG. 6B is a schematic sectional view of the present invention, showing movement of the sliding keyboard along the rails (II).

15 FIG. 6C is a schematic sectional view of the present invention, showing movement of the sliding keyboard along the rails (III).

FIG. 7 is a schematic sectional view of the present invention, showing the handlebar lifted, the locking bar unlocked.

## 20 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIGS. 1, 2, and 3, a sliding keyboard carrier is shown comprised of a base frame 10, a sliding plate 20, a positioning structure 30, and a handle frame 41.

The base frame 10 comprises two upright rods 11, a carrier frame bar 14, and two locating rods 16. The carrier frame bar 14 is a substantially U-shaped frame bar, having a smoothly arched middle part 141 horizontally disposed at the front side. The two  
5 free ends of the U-shaped carrier frame bar 14 are disposed at the rear side and respectively fixedly connected to the bottom ends of the upright rods 11. The carrier frame bar 14 is affixed to the bottom side of a keyboard panel 200 for carrying a keyboard in a computer table (see also FIGS. 6 and 7). The locating rods 16 are  
10 respectively perpendicularly extended from the top ends of the upright rods 11 in direction reversed to the U-shaped carrier frame bar 14, each having a plurality of through holes 161.

The sliding plate 20 comprises a plurality of vertical female screws 21 downwardly extended from the bottom side and  
15 respectively inserted through respective the through holes 161 of the locating rods 16 and then affixed thereto with respective screws 22, a plurality of horizontal roller holders 23 symmetrically disposed at two opposite lateral sides, and a plurality of rollers 24 respectively fastened pivotally with the roller holders 23 and  
20 supported in two parallel rails 25 in the computer table for enabling the sliding keyboard carrier to be moved back and forth along the rails 25.

The positioning structure 30 comprises a vertical spring

support 31, a locking bar 35, and two locating plates 36 (see also FIGS. 4~7). The vertical spring support 31 comprises two cylindrical outer barrels 32 respectively affixed to the upright rods 11 of the base frame 10 below the locating rods 16, two cylindrical inner barrels 33 respectively affixed to the locking bar 35 and respectively movably inserted into the outer barrels 32 from the top side, and two compression springs 34 respectively mounted in between the outer barrels 32 and the inner barrels 33. The locking bar 35 has two distal ends symmetrically curved upwards and terminating in a respective locking tip 351. The two locating plates 36 are respectively affixed to the rails 25 near the front side of the table frame 100 of the computer table, each having a locking hole 361 adapted to receive the locking tips 351 of the locking bar 35 (this will be described further). The locating plates 36 have a respective rear side curved upwards.

The handle frame 41 is pivotally provided between the two upright rods 11, comprising a shaft 42 horizontally connected between the upright rods 11, a sleeve 43 sleeved onto the shaft 42 before installation of the shaft 42, and a substantially U-shaped handlebar 411 fixedly fastened to the sleeve 43. The handlebar 411 has two free ends 412 respectively pressed on the locking bar 35. Further, one locating rod 16 is provided with a pressure pin 162, which is pressed on one free end 412 of the handlebar 411 against

the locking bar 35, holding the handle frame 41 in position.

As illustrated in FIG. 3, the base frame 10 is coupled to the rails 25 below the table top frame member 200 by means of the rollers 24. The rails 25 each have an opening 251. During installation, the rollers 24 are respectively inserted through the openings 251 in the rails 25 and fastened to the roller holders 23 of the sliding plate 20. FIG. 3 shows the outer appearance of the table top frame member 100, and a shield 101 covering the rails 25 (see also FIG. 5).

As illustrated in FIGS. 3 and 4, by means of the rollers 24, the base frame 10 can be moved back and forth along the rails 25. When pulling the base frame 10 outwards, the carrier frame bar 14 with the keyboard panel 200 are moved out of the front side of the table top frame member 100 for operation. On the contrary, when pushing the base frame 10 backwards, the carrier frame bar 14 with the keyboard panel 200 are received below the table top frame member 100.

FIG. 6A is a sectional view, showing the base frame 10 moved along the rails 25 by means of the rollers 24.

Referring to FIG. 6B, when moving the base frame 10 forwards toward the front side of the table top frame member 100, the locking tips 351 of the locking bar 35 are respectively forced into contact with the upwardly curved rear sides of the locating

plates 36 and guided downwards by the locating plates 36 to compress the compression springs 34, for enabling the locking tips 351 to pass over the locating plates 36.

FIG. 6C shows the base frame 10 moved to the front side of the table top frame member 100, the locking tips 351 passed over the upwardly curved rear sides of the locating plates 36 and forced by the upward pressure of the compression springs 34 into the locking holes 361 of the locating plates 36. Therefore, the base frame 10 is locked. At this time, the carrier frame bar 14 and the keyboard panel 200 are extended out of the front side of the table top frame member 100 for operation.

Referring to FIG. 7, when unlocking the base frame 10, lift the handlebar 41 to turn the free ends 412 of the handlebar 411 downwards, thereby causing the locking bar 35 to be lowered to disengage the locking tips 351 from the locking holes 361. At this time, the user can push the base frame 10 backwards from the received position.

As indicated above, the invention allows the keyboard panel 200 to be moved in and out of the table top frame member 100. When extended out, the positioning structure 30 locks the keyboard panel 200 in the extended position. Unlocking the keyboard panel 200 is easily achieved by means of lifting the handlebar 141 of the handle frame 14.

A prototype of sliding keyboard carrier has been constructed with the features of FIGS. 1~7. The sliding keyboard carrier functions smoothly to provide all of the features discussed earlier.

- 5           Although a particular embodiment of the invention has been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention. Accordingly, the invention is not to be limited except as by the appended claims.